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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,968	12/31/2001	Rajendran S. Michael	24975A	2158
22889	7590	12/23/2005	EXAMINER	
OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			BOYD, JENNIFER A	
			ART UNIT	PAPER NUMBER

1771

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/038,968

Applicant(s)

MICHAEL ET AL.

Examiner

Jennifer A. Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. The Applicant's Amendments and Accompanying Remarks, filed October 13, 2005, have been entered and have been carefully considered. Claim 1 is amended, claim 5 is cancelled, claims 10 – 14 are withdrawn and claims 1 and 6 – 9 are pending. In view of Applicant's amendment, the Examiner has revised the previously applied rejection below. The invention as currently claimed is unpatentable for reasons herein below.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

3. Claims 1 and 6 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US 5,886,306) in view of Bae et al. (US 5,034,443) and further in view of Iwasa et al. (US 5,744,763).

Patel is directed to a layered acoustical insulating web (Title) suitable for vehicles, farm equipment, airplanes and trains.

As to claims 1 and 6, Patel teaches a composite web comprising multiple layers of wood pulp which may be combined with synthetic fiber (column 2, lines 1 – 40). See Figure 3. The Examiner equates one of the middle layers to Applicant's "insulating layer" and the outer layers to Applicant's "structural layers". Patel notes that one side of the composite non-woven web can be coated with a barrier acoustic material such as reground PVC filled with an inert material

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(claim 7). Therefore, one of the outer layers can comprise a non-woven web and PVC as required by Applicant.

As to claim 9, Patel teaches that the layered acoustical insulating web can be used vehicles (column 1). It should be noted that the recitation of “hoodliner” is not given patentable weight at this time since the prior art meets the structural and/or chemical limitations set forth and there is nothing on record to evidence that the prior art product could not function in the desired capacity. The burden is shifted upon the Applicant to evidence the contrary.

Patel fails to teach that the PVC can further comprise a heat stabilizer.

Bae is directed to stabilizer composition for polyvinyl chloride resins and to improved resistance to degradation caused by heat useful in applications such as motor vehicle components (column 1, lines 5 – 20) such as headliners (column 5, lines 50 – 55). Bae teaches a polyvinyl chloride molded article stabilized by various heat stabilizers to provide resistance to the polyvinyl resin to deterioration, discoloration, reduction in melt viscosity and embrittlement (column 3, lines 45 – 55). Bae notes that the polyvinyl chloride resins can be shaped by standard plastics processing techniques and can be formed into a wide variety of motor vehicle parts for both interior and exterior use (column 5, lines 40 – 55).

It would have been obvious to incorporate heat stabilizer as suggested by Bae into the nonwoven covering layers of Patel motivated by the desire to create a headliner material which has superior resistance against deterioration, heat stability, reduction in melt viscosity and embrittlement.

Patel in view of Bae fails to teach that the substrate comprises at least one lofted area and at least one compacted area as required by claim 1 and comprises a second lofted area and second compacted area as required by claim 7.

Iwasa is directed to a soundproofing insulator (Title) to be applied to automobile hoods, roof panels, floor panels or engine covers and to prevent noises from propagating outside or within the interior of a vehicle (column 1, lines 5 – 15). Iwasa teaches a soundproofing material comprising a pulverized rubber layer 11 containing rubber grains and outer covering layers 12 covering the pulverized rubber layer 11 (column 4, lines 55 – 65). Iwasa teaches that the covering layers 12 can comprise a nonwoven fabric (column 5, lines 15 – 25). Iwasa shows in the seventh embodiment that the soundproofing material comprises a plurality of dimple-like or hemispherical noise absorbing recesses 71 and ridges 72 (column 9, lines 60 – 67). See Figures 12 and 13. It is shown in the Figures that there are regions of various thicknesses. The Examiner equates the thicker areas to Applicant's "first and second lofted areas" and the thinner areas to Applicant's "first and second compacted areas". It should be noted that the lofted areas by virtue would have a dimension greater than the dimension of the compressed areas. The compressed areas are equated to Applicant's "at least one compacted area" and the thicker areas are equated to Applicant's "at least one lofted area". It should be noted that all structural limitations have been met, therefore, the Examiner submits that the compressed areas would inherently structurally enhance the liner and the thicker areas would inherently insulate against the transmission of sound and heat energy. Iwasa notes that the noise absorbing recesses 71, cavities

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73 and ridges formed in this embodiment enhances the rigidity of the soundproofing material compared with those having flat surfaces. Consequently, transportation and fitting become facile, notably improving workability (column 10, lines 45 – 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the panel of Patel in view of Bae with lofted and compacted areas as shown in Iwasa motivated by the desire to create a soundproofing material with increased rigidity and workability.

As to claim 8, Patel in view of Bae and Iwasa discloses the claimed invention except for that the “first lofted area” has a thickness equal to about 3 to 25 times the thickness of the “first compacted area”. It should be noted that the thickness is a result effective variable. For example, as thickness increases, the layer becomes more rigid and provides a more insulating effect and as the thickness decreases, the layer becomes more flexible and provides a more structural supporting effect. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a composite with “first lofted area” has a thickness equal to about 3 to 25 times the thickness of the “first compacted area”, since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the thickness of both the “first lofted area” and the “first compacted area” to create the “first lofted area” having a thickness of 3 to 25 times the thickness of the “first compacted area” to optimize the insulating and structural support strength of the composite.

*Response to Arguments*

4. Applicant's arguments filed October 13, 2005 have been fully considered but they are not persuasive.

Applicant argues that Patel does not explicitly teach the use of polyvinyl chloride. The Examiner respectfully argues the contrary. As noted above in the rejection, Patel notes that one side of the composite non-woven web can be coated with a barrier acoustic material such as reground PVC filled with an inert material (claim 7). Although Patel does teach that the binders can be starch, latex or a vinyl acetate monomer, Patel does also teach the use of reground PVC as the coating. It should be noted that the Applicant does not claim a PVC binder but only requires the presence of PVC in any form in the structural layer.

Applicant argues that there is no basis for combining Patel with Bae because Patel does not teach the use of polyvinyl chloride. As noted above in the rejection, Patel notes that one side of the composite non-woven web can be coated with a barrier acoustic material such as reground PVC filled with an inert material (claim 7). Although Patel does teach that the binders can be starch, latex or a vinyl acetate monomer, Patel does also teach the use of reground PVC as the coating. It should be noted that the Applicant does not claim a PVC binder but only requires the presence of PVC in any form in the structural layer.

Applicant argues that Iwasa, when considered as a whole, teaches away from the present invention. Iwasa is directed to a soundproofing insulator (Title) to be applied to automobile hoods, roof panels, floor panels or engine covers and to prevent noises from propagating outside or within the interior of a vehicle (column 1, lines 5 – 15). Iwasa teaches a

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soundproofing material comprising a pulverized rubber layer 11 containing rubber grains and outer covering layers 12 covering the pulverized rubber layer 11 (column 4, lines 55 – 65). Iwasa teaches that the covering layers 12 can comprise a nonwoven fabric (column 5, lines 15 – 25). Iwasa shows in the seventh embodiment that the soundproofing material comprises a plurality of dimple-like or hemispherical noise absorbing recesses 71 and ridges 72 (column 9, lines 60 – 67). See Figures 12 and 13. Iwasa notes that the noise absorbing recesses 71, cavities 73 and ridges formed in this embodiment enhances the rigidity of the soundproofing material compared with those having flat surfaces. Consequently, transportation and fitting become facile, notably improving workability (column 10, lines 45 – 55). Although Iwasa is directed an insulator comprising rubber particles, Iwasa is not relied upon for the materials constituting the insulator but is only intended to provide motivation to have a lofted and compressed topography. In regards to Applicant's comment that Iwasa does not teach or suggest compacting the insulation layer, it is not clear that a compacted insulation layer is required by Applicant's claims.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37



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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

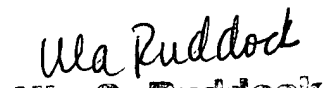
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Boyd  
December 16, 2005



**Ula C. Ruddock**  
Primary Examiner  
Tech Center 1700